



## Streamline American Screw Cap Pen Kit

Product #149896, 149897

### General Instructions

Whether you're a novice turner or a pro, you'll find these projects are all quick and easy to make. Using cut-offs and shorts, the type everyone saves but doesn't know what to do with, you'll find yourself making handsome, custom woodturning projects which are great for gifts or for sale. The following is general in nature, please refer to the instruction sheet on the opposite side for specific dimensions and sizes for your project.

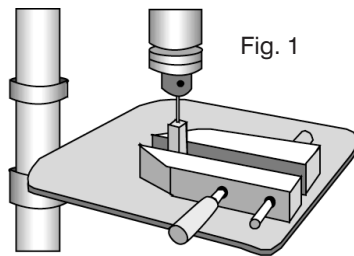
#### 1. Cutting Blanks

Cut wooden blanks to the size specified in the enclosed instructions. For your safety, be sure that the blanks are solid and have no holes, checks or other defects.

#### 2. Drilling Blanks

Center and bore a hole through your stock as specified in the Project Instructions on the opposite side. The center of the blank can be located at the intersection of diagonal lines, drawn from opposite corners. All holes

are easily drilled using a clamp and a drill press (**FIG. 1**). Before you start to drill be sure that your blank is at 90° to the drill press table. You may also chuck and drill the stock on your lathe.

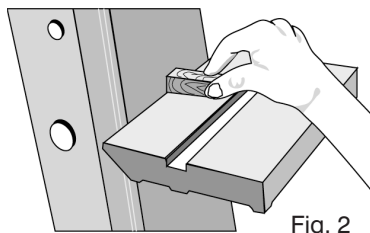


#### 3. Gluing Blanks to Tubes

Rough the brass tube's surface with a fine grit sandpaper and use a quick drying CA type glue to secure the brass tubes into the blanks. Rotate the tube as you insert it to ensure maximum surface coverage of glue. If you find that CA glue is not providing adequate bonding, an alternative is any two part epoxy type glue.

#### 4. Sanding Blanks to Length

Using a belt or disc sander, square the ends of the brass tube/wood blank. The blank should be flush with the brass tube on both ends. Care should be taken to not sand into the tubes (**FIG. 2**). If any excess glue remains inside the tubes it should be gently scraped out.



*Tip: Excess glue can be scraped out using the threaded end of the mandrel when mounting the blanks for turning.*

### 5. Mandrel Preparation

Woodcraft's new Pen and Pencil Maker's Mandrel system allows you to turn a variety of small projects without requiring the purchase of a unique, special mandrel each time. The only item you will need to purchase to turn new projects is the specially designed bushing set for the project of your choice. The mandrel is provided with either a #1 Morse Taper (141468) or a #2 Morse Taper (141469). If you prefer to use the mandrel in a three jaw chuck, simply loosen the Morse Taper set screw and slide the Morse Taper off of the shaft. Now the mandrel shaft may be mounted directly in your three jaw chuck. With the bushing sets specified on the project instruction sheet, mount your wood blanks and bushings as depicted for each project. With the mandrel mounted in your lathe, slide a bushing onto the mandrel, followed by a wood blank and a second bushing or spacer as required, followed by the second wood blank if required. With the wood blanks installed on the mandrel, secure the wood blank/bushing assembly using the washer and retaining nut provided. Bring up a live center in the tailstock to support the threaded end of the mandrel. Do not over tighten the tailstock or the mandrel will flex and bend causing oval shaped turnings.

### 6. Turning Blanks

Place your tool rest parallel and as close as possible to the blank. Rotate the blank by hand to ensure it will not touch the tool rest when the lathe is turned on. Using a turning speed of approximately 1,000 RPM begin turning the blank to a diameter slightly larger than the bushings. You can work the stock down to just short of the desired design or diameter by carefully scraping or sanding.

### 7. Finishing the Blanks

Blanks can be finished like any other wood project. Using a fine grit sandpaper, sand the blank until it is flush with the bushing for parallel sided projects or until the desired profile is obtained for custom projects. Use a wood filler, if desired, to fill any grain openings in the blank. Final sanding with a wet/dry paper will create a blank which is glass smooth. *Tip: We have found that use of Micro Mesh sanding paper (11L61) after wet/dry sanding creates a perfect, glass smooth finish.*

### 8. Assembly

All parts should fit together as depicted in the parts diagram for each project. In some cases a pen press or machinists vise will be needed to completely press the parts together. Protect all plated parts from scratching by covering them with a cloth or thin pad before placing them in a vise. Proceed carefully, many of the kit components are delicate and uneven or excessive pressure will cause permanent damage.



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### 1. Cutting Blanks

Cut 2 wood blanks, one  $\frac{5}{8}$ " x  $\frac{5}{8}$ " x 2  $\frac{1}{8}$ " long; and one  $\frac{5}{8}$ " x  $\frac{5}{8}$ " x 2  $\frac{1}{2}$ "

### 2. Drilling Blanks

Using a  $\frac{3}{8}$ " brad point bit, drill a hole lengthwise through the center of each blank.

### 3. Gluing Blanks to Tubes

See General Instructions for details.

### 4. Sanding Blanks to Length

See General Instructions for details.

### 5. Mandrel Preparation

Mount the tube blanks on your lathe mandrel and turn to bushing dimensions. All three bushings (06S89) are identical, but proper placement will enable you to turn to the dimensions required for the pen top and bottom. Place the first bushing on the mandrel with the "large" diameter on the headstock side of the mandrel. Slide a blank onto the mandrel and over the lip of the first bushing. Place a second bushing on the mandrel with the "small" diameter oriented toward the headstock and slip the bushing lip into the first blank. Place the second blank on the mandrel, followed by the third bushing with the "large" diameter oriented toward the headstock. In this configuration, the blank closest to the headstock is Tube #1 (the pen bottom) and the blank closest to the tailstock is Tube #2 (the pen top).

*Tip: Mark or identify your bushings so that you can use them in the same mandrel position each time and avoid damaging more than one bushing lip when the mandrel nut is tightened to secure your blank assembly.*

### 6. Turning the Blanks

1. The diameter of Tube #1 must exactly match the bushing diameter. If this diameter is not precisely obtained, the wood of Tube #1 might rub on the pen's center ring (H) when assembled and keep the top from snapping on.
2. A portion of the wood on the pen top, Tube #2, must be parted off for pen assembly. After turning the pen top to the bushing diameter, part  $\frac{3}{16}$ " from the end which will be receiving the Center Ring (H). When parting, all wood should be removed down to the brass tube being careful not to damage the tube. We suggest trying to match the grain between the bottom and top of the pen to help you decide which end should be parted off.

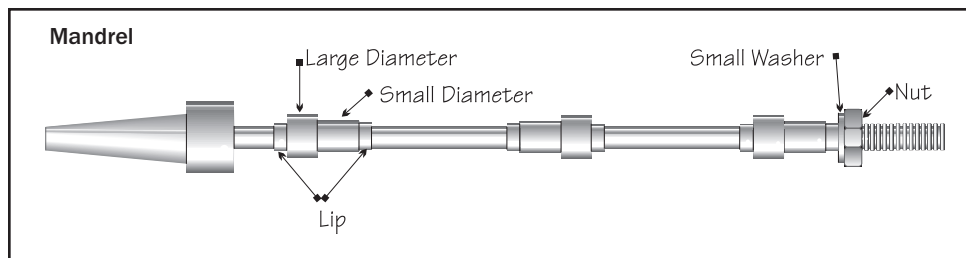
### 7. Finishing the Blanks

See General Instructions for details.

### 8. Pen Assembly

#### Cap Assembly

1. The Center Ring, part (H), consists of three pieces as shown in the diagram. Slip the small, black plastic ring (H2) onto the main center ring component (H1), followed by the small gold ring (H3). This three piece assembly now becomes the Center Ring (H). Press the center ring (H) onto the brass, parted end of Tube #2 so that the flat side on the center ring is pressed against the wood of Tube #2. If the center ring is loose, we recommend carefully gluing it in place with CA glue.
2. Press the Brass Clip Bushing (I) into Tube #2 opposite the center ring. Be sure the assembly is seated flush with the wood of Tube #2.
3. Place the stud of the Finial (K) through the Clip (J) and screw it into the top of the Brass Clip Bushing (I).





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### Lower Barrel Assembly

1. Press the long end of the Coupler (C) into the end of Tube #1 which will become the bottom of the pen. Press the large end of the Reducer/Coupler (E) into the opposite end of Tube #1.
2. Press the Lower Barrel Finial (G) into the opposite end of the Reducer/Coupler (E).

### Roller Ball Operation

1. Place the Roller Ball Spring (M) into the lower barrel assembly large end first. Insert the Ink Refill (N) into the lower barrel assembly and screw the Nib Assembly (A/B) onto the lower barrel assembly.

### Additional Parts:

**149914** replacement tube set (5 pair)

